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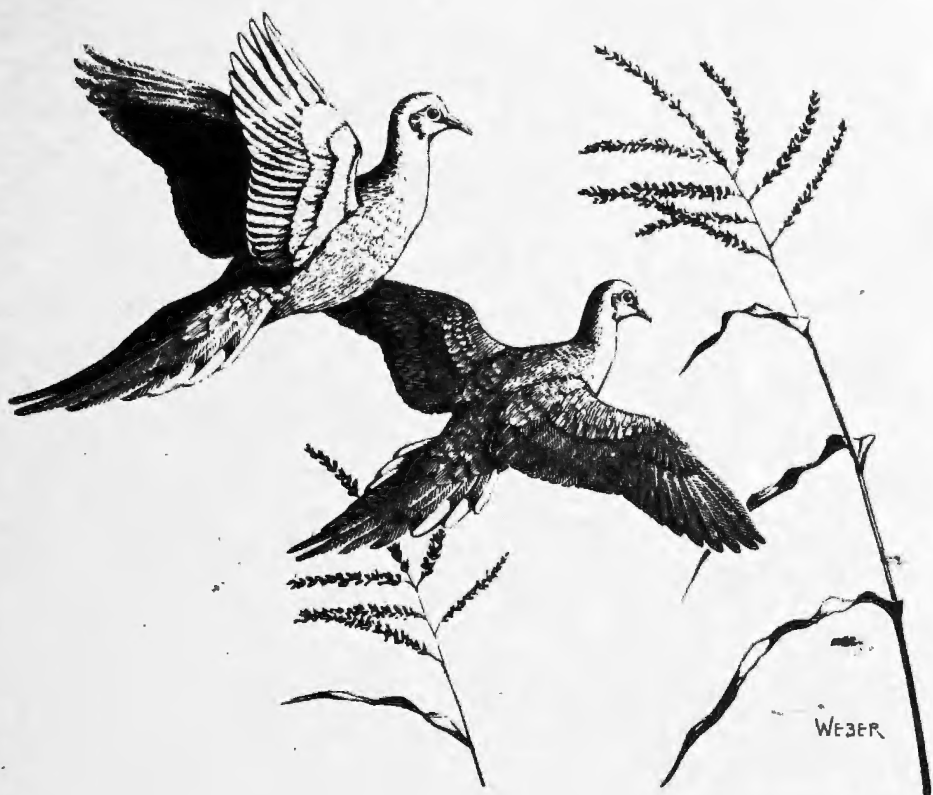current scientific research, policies or practices.

MOURNING DOVE STATUS REPORT

1962

WEBER

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
Special Scientific Report--Wildlife No. 70

MOURNING DOVE STATUS REPORT, 1962

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UNITED STATES DEPARTMENT OF THE INTERIOR
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Contents

ABSTRACT

An index to the 1962 mourning dove breeding population
was obtained by a call-count survey conducted throughout
the United States. Trends in the breeding population
index were calculated for three management units and
for hunting and nonhunting States within the management
units. Trends in the breeding population indexes from
1961 to 1962 were as follows: Eastern Unit down 3 percent,
Central Unit down 11.5 percent, and Western Unit down 12
percent. For the United States as a whole, the 1962
breeding population index is down 10 percent from 1961.

INTRODUCTION

Prior to 1960, the annual status of the mourning dove population was reported in the <u>Mourning Dove Newsletter</u>. The <u>Newsletter</u> continues as a report on activities in mourning dove research and management on a national scale, but the annual report on status of the population, used chiefly for regulatory purposes, is published separately. The 1960 and 1961 Status Reports were published in the Special Scientific Report - Wildlife Series Nos. <u>49</u> and <u>57</u>.

An annual survey of the breeding population of mourning doves by a system of call-count routes provides an index to the status of the population in the United States. Through the cooperation of State, Bureau, and independent observers, call-count routes were widely established by 1953. The hundreds of cooperators who participate in the call-count survey have contributed the data that form the basis for this report.

The call-count survey period is May 20 - June 10, a period during which dove calling activity is relatively stable, as indicated by intensive studies in eastern United States (Special Scientific Report - Wildlife No. 17). Because hunting regulations must be published 30 days prior to the hunting season, the Dove Regulations Committee can meet no later than in late June. Status statistics must be summarized for consideration by this Committee. The annual Status Report (or a preliminary version thereof) serves this purpose. It also is distributed to all cooperators in the call-count survey and is available to interested organizations and individuals.

For several years prior to 1960, the Federal framework of mourning dove hunting regulations was established on the basis of eastern and western groups of States. Recent analysis of banding data indicates that there are three units of the mourning dove population in the United States that are largely independent of each other (Kiel, 1959) and the Federal framework of hunting regulations was established on the basis of these three management units in 1960. The criteria for independence are that a unit produces the bulk of the doves that it harvests and does not produce a significant number of doves that are harvested by other units. The Eastern, Central, and Western Management Units outlined in figure 1 best meet

these criteria for management units on the basis of present
information. Additional analysis of banding data is currently
in progress to more firmly establish the Management Unit
boundaries.

Figure 1. Mourning Dove Management Units

— Nonhunting States
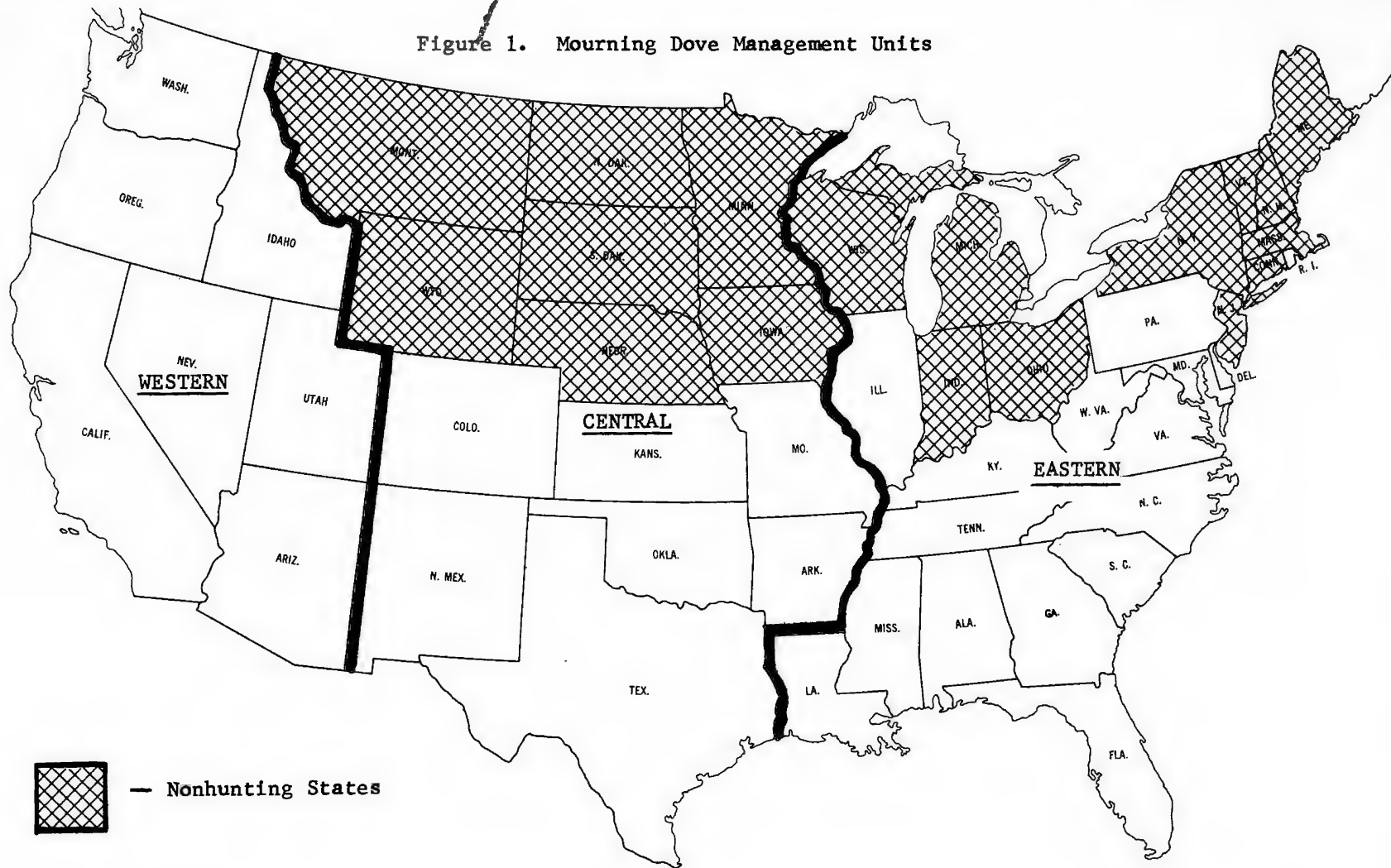
PROCEDURE

The Call-count Method

Call-count routes were established after field investiga-
tions in 1950-51 demonstrated the feasibility of the technique.
These investigation were reported by Foote, Peters, McGowan,
Kerley, Duvall, Robbins, and Wagner (1952). Doves heard
calling and doves seen are recorded on a route 20 miles in
length with listening stations one mile apart. Call counts
begin one-half hour before sunrise and continue for two
hours. Information on the call-count method and procedures
for randomly selecting call-count routes was presented by
Foote, Peters, and Finkner (1958).

The call-count survey provides the only population index
for doves currently available on a national and international
scale. It has limitations and possible biases that require
consideration and evaluation through further study. It is
an index to the breeding population only and does not indicate
production. This is an important limitation because a high
percentage of an average fall population is composed of young
of the year. In calculating trends in the breeding population,
doves heard calling has been a less variable index than doves
seen. Additional research is needed to understand the relation-
ship of doves heard calling and doves seen to the actual population
in various portions of the mourning dove breeding range. Several
Cooperative Wildlife Research Units and State and Bureau Personnel
are conducting studies of the call-count census method this year.

Weighting Factors

When combining data from several States to obtain breeding
population indexes for management units or parts of management
units, it was necessary to give appropriate weight to the data
from each State. This was done by multiplying the average doves
heard calling per route in each State by the estimated area of
dove habitat in the State to obtain a breeding population index
value. These index values for each State were then added together
to obtain the properly weighted breeding population index for the
combination of States. This weighting procedure recognizes
differences between States both in dove density and the amount
of habitat. Dove habitat area was estimated in the 1958 Mourning
Dove Newsletter and is listed in table 1.

Long-term Trends

For the purpose of showing long-term trends in the breeding population index of a State, a base year was selected, and annual percentage changes have been applied to the base figure (average doves heard calling per route) to give an adjusted figure which shows the true relation of indexes from year-to-year. The selection of a base figure is necessary because not all routes are censused each year. From a base year, average doves heard calling per route for each State has been adjusted annually according to the percentage change from the preceding year in counts on routes covered both years. For example, 1957 was selected as a base year in Alabama (table 2). In that year, the average doves heard calling per route was 21.1. In 1958, the percentage change from 1957 in counts on comparable routes was an increase of 12.8 percent, so the base figure of 21.1 was adjusted upward by 12.8 percent to a level of 23.8. In 1959, the percentage change from 1958 in counts on comparable routes was a decrease of 21.6 percent, so the 1958 adjusted figure or adjusted base was decreased by 21.6 percent, from 23.8 to 18.7.

TRENDS IN THE BREEDING POPULATION INDEX - 1962

Eastern Management Unit

The breeding population index for the Eastern Unit decreased 3 percent from the 1961 level (table 1). Figure 2 shows that the breeding index of the Eastern Unit increased generally over the 7-year period prior to 1961, followed by a 2-year decline.

In hunting States of the Eastern Unit, the breeding index remained unchanged from 1961. In nonhunting States, the index decreased 12 percent from 1961 to 1962 (table 1). The long-term trend of the breeding index in nonhunting States of the Eastern Unit is shown in figure 3 and indicates a relatively stable population in recent years.

Central Management Unit

The breeding population index for the Central Unit decreased 11.5 percent from the 1961 level (table 1). Figure 2 shows that for 6 years up to 1960 the breeding index of the Central Unit generally increased. This has been followed by declines in 1961 and 1962.

Figure 2.   Trends in Breeding-population Indexes
            by Management Units, 1953-1962
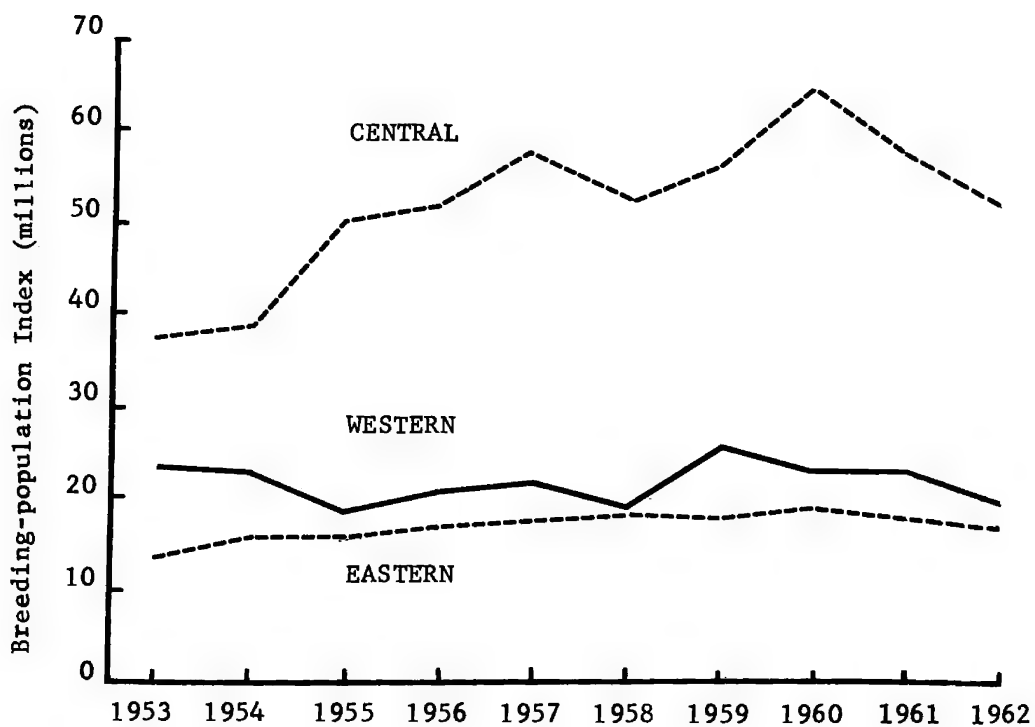
Figure 3. A Comparison of Trends in Breeding-population Indexes for Hunting and Nonhunting States within Management Units.
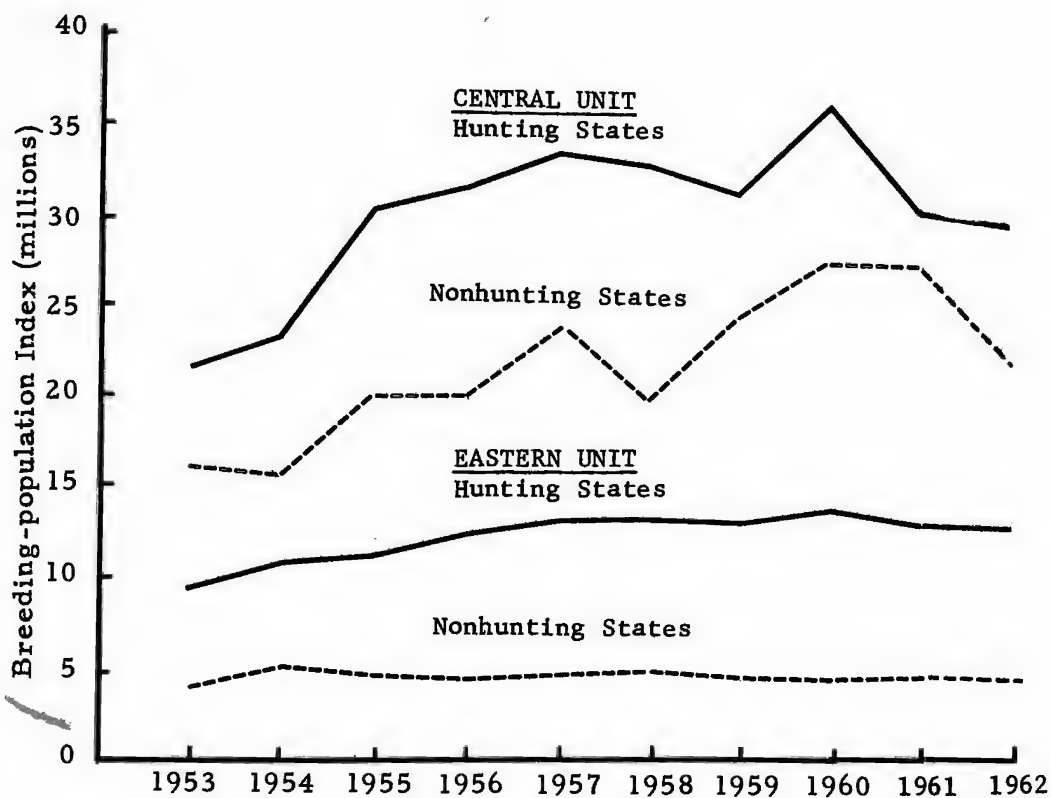
In hunting States of the Central Unit, the breeding index decreased 4 percent compared to 1961. The State of Texas had two routes that were not considered in the 1962 data because they so heavily weighted the data for Texas that the State index was altered -22.6 percent (from +4.3 to -18.3 percent change). This in turn altered the entire Central Management Unit data (from -11.5 to -15.8 percent change).

In nonhunting States, the index declined 20 percent between 1961 and 1962 (table 1). Adverse weather was reported as occuring during the census period in the north central area of this management unit in 1962. To test the influence that unseasonable weather had on these counts, the records of weather conditions taken at the time of beginning of the routes was compared for the years 1961 and 1962 in the States of Iowa, Minnesota, Nebraska, South Dakota, and North Dakota. Average temperature, percent cloudiness, and the Beaufort wind scale were measurements used. No clear-cut weather differences were noted between years except greater cloudiness occurred in 1962 reflecting the reported stormy conditions. Cloudiness, by itself has not proven to be a cause of decreased calling intensity.

Western Management Unit

The breeding population index for the Western Unit showed a 12 percent decrease from the 1961 level (table 1). Figure 2 shows that the breeding index of the Western Unit has fluctuated moderately over the 10-year period at generally stable levels.

Discussion of Population-index Trends

Indexes to mourning dove breeding populations in the three management units showed declines from the 1961 level. For the United States as a whole, the 1962 breeding population index was 10 percent below the 1961 level. The long-term trend has been generally upward since 1953 to 1960 and has decreased in 1961 and 1962. The breeding population index level in the Eastern and Central Units remain above the 1953 levels and in the Western Unit the index fluctuated above and below its present level since 1953.

LITERATURE CITED

Foote, L. E., H. S. Peters, T. A. McGowan, C. Kerley, A. J. Duvall,
    C. S. Robbins, and F. H. Wagner.
    1952. Investigations of methods of appraising the abundance
    of mourning doves. U. S. Fish and Wildlife Service, Special
    Scientific Report: Wildlife No. 17, 53 pp.

_____, H. S. Peters, and A. L. Finkner.
    1958. Design tests for mourning dove call-count sampling in
    seven southeastern States. Jour. Wildl. Mgt., 22(4):402-408.

Kiel, W. H., Jr.
    1959. Mourning dove management units--a progress report.
    U. S. Fish and Wildlife Service Special Scientific Report:
    Wildlife No. 42, 24 pp.

Table 1.   Trends in Doves Heard Calling on Call-count Routes, 1961 to 1962

EASTERN MANAGEMENT UNIT - HUNTING STATES

State	Est. Dove Habitat (sq. mi.)	Comparable Routes	1961 Heard	1961 Index	1962 Heard	1962 Index	Percent Change
Ala.	51,078	27	20.1	1,027	19.5	996	- 3.0
Del.	1,978	1	36.0	71	44.0	87	+ 22.5
Fla.	54,262	22	12.0	651	14.5	787	+ 20.9
Ga.	58,518	19	20.4	1,194	23.8	1,393	+ 16
Ill.	55,947	32	36.0	2,014	29.3	1,639	- 18.
Ky.	40,109	17	26.7	1,071	27.1	1,086	+ 1.
La.	45,177	27	13.7	619	10.9	492	- 20.5
Md.	9,393	12	17.2	162	19.0	178	+ 9.
Miss.	47,420	22	22.7	1,076	24.2	1,148	+ 6.7
N. C.	44,232	21	23.7	1,048	26.1	1,154	+ 10.1
Pa.	23,465	12	13.2	310	10.9	256	- 17.4
R. I.	**	2	10.0	**	11.0	**	--
S. C.	30,594	20	31.7	970	28.5	872	- 10.1
Tenn.	41,961	24	22.9	961	26.4	1,108	+ 15.3
Va.	37,904	10	40.6	1,539	35.1	1,330	- 13.6
W. Va.	16,863	3	11.4	192	23.9	403	+109.9
Sub-total	558,901	271		12,905		12,929	+ 0.2

EASTERN MANAGEMENT UNIT - NONHUNTING STATES

State	Est. Dove Habitat (sq. mi.)	Comparable Routes	1961 Heard	1961 Index	1962 Heard	1962 Index	Percent Change
Conn.	3,919	2	5.2	20	5.2	20	0.0
Ind.	36,205	11	30.2	1,093	25.0	905	- 17.2
Maine	**	3	3.0	**	3.0	**	--
Mass.	1,977	23	5.0	10	6.7	13	+ 30.0
Mich.	28,511	9	28.8	821	22.9	653	- 20.5
N. H.	**	4	3.8	**	2.8	**	--
N. J.	7,522	8	16.3	123	16.2	122	- 0.8
N. Y.	11,982	8	23.5	282	27.1	325	+ 15.3
Ohio	41,122	15	21.6	888	25.8	1,060	+ 19.4
Vt.	**	1	0.0	**	2.0	**	--
Wisc.	38,300	17	35.7	1,367	25.0	958	- 30
Sub-total	169,538	101		4,604		4,056	- 11

State	Est. Dove Habitat (sq. mi.)	Comparable Routes	1961 Heard	1961 Index	1962 Heard	1962 Index	Percent Change
Eastern Unit Total	728,439	372		17,509		16,985	- 3.0

CENTRAL MANAGEMENT UNIT - HUNTING STATES

	Est. Dove Habitat (sq. mi.)	Compa-rable Routes	Average Heard per Route and Indexes *				Percent Change
			1961		1962		
			Heard	Index	Heard	Index	
Ark.	52,725	9	30.5	1,608	16.9	891	- 44.6
Colo.	72,777	8	16.8	1,223	16.8	1,223	0.0
Kans.	92,113	33	62.7	5,775	63.8	5,877	+ 1.8
Mo.	69,270	17	44.6	3,089	42.1	2,916	- 5.6
N. Mex.	109,360	12	37.4	4,090	32.8	3,587	- 12.3
Okla.	69,283	9	46.0	3,187	40.2	2,785	- 12.6
Tex.	263,644	36	41.5	10,941	43.3	11,416	+ 4.3
Sub-total	729,172	124		29,913		28,695	- 4.1

CENTRAL MANAGEMENT UNIT - NONHUNTING STATES

Iowa	55,986	14	82.5	4,619	80.0	4,479	- 3.0
Minn.	60,007	13	30.1	1,806	24.9	1,494	- 17.3
Mont.	124,369	15	66.5	8,271	44.0	5,472	- 33.8
Nebr.	76,653	10	66.3	5,082	52.3	4,009	- 21.1
N. Dak.	70,054	23	36.9	2,585	33.2	2,326	- 10.0
S. Dak.	73,475	7	35.5	2,608	27.4	2,013	- 22.8
Wyo.	82,080	16	28.3	2,323	26.0	2,134	- 8.1
Sub-total	542,624	98		27,294		21,927	- 19.7
Central Unit Total	1,271,796	222		57,207		50,622	- 11.5

WESTERN MANAGEMENT UNIT - HUNTING STATES

State	Est. Dove Habitat (sq. mi.)	Compa-rable Routes	Average Heard per Route and Indexes *				Percent Change
			1961		1962		
			Heard	Index	Heard	Index	
Ariz.	113,580	19	47.1	5,350	32.8	3,725	- 30.4
Calif.	141,123	55	42.7	6,026	48.0	6,774	+ 12.4
Idaho	49,685	11	27.2	1,351	27.6	1,371	+ 1.5
Nev.	108,704	24	29.6	3,218	14.9	1,620	- 49.7
Oreg.	72,263	18	43.0	3,107	36.8	2,659	- 14.4
Utah	74,111	13	28.0	2,075	25.7	1,904	- 8.2
Wash.	46,884	13	31.0	1,453	36.9	1,730	+ 19.
Western Unit Total	606,350	153		22,580		19,783	- 12.
U.S. Total	2,606,585	749		97,296		87,390	- 10.2

*   From a base year, average doves heard calling per route for each State
     has been adjusted annually according to the percentage change from the
     preceding year in counts on comparable routes. The index, expressed
     in thousands, is the product of the adjusted average doves heard per
     route and the estimated area of dove habitat.

**   The area of dove habitat has not been estimated for Maine, New Hampshire,
     Rhode Island, and Vermont.

Table 2. Trends in the Breeding-population Index, 1953-62

The first figure listed for each State by years is the adjusted average doves heard calling per route. The method of adjustment is described in the text. The base year for adjustments was 1956 or 1957. States for which 1957 was the base year are those that reorganized call-count routes in that year. These States are Alabama, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee.

The second figure for each State is the breeding-population index. The index, expressed in thousands, is the product of the adjusted average doves heard per route and the estimated area of dove habitat. (Habitat area is given in table 1.)

State	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
Ala.	17.4	21.3	19.7	19.9	21.1	23.8	18.7	22.7	20.1	19.5
	889	1,088	1,006	1,016	1,078	1,216	955	1,159	1,027	996
Ariz.	30.7	31.8	29.4	40.0	33.1	31.0	33.6	26.3	47.1	32.8
	3,487	3,612	3,339	4,543	3,759	3,521	3,816	2,987	5,350	3,725
Ark.	34.6	27.1	32.0	29.4	32.6	33.7	30.0	28.0	30.5	16.9
	1,824	1,429	1,687	1,550	1,719	1,777	1,582	1,476	1,608	891
Calif.	37.8	34.7	30.0	34.9	36.7	41.2	55.1	59.5	42.7	48.0
	5,334	4,897	4,234	4,925	5,179	5,814	7,776	8,397	6,026	6,774
Colo.	no	46.5	50.2	70.5	57.6	46.4	23.8	34.9	16.8	16.8
	index	3,384	3,653	5,131	4,192	3,377	1,732	2,540	1,223	1,223
Conn.	5.0	0.0	5.6	5.5	9.0	7.0	6.0	9.6	5.2	5.2
	20	0	22	22	35	27	24	38	20	20
Dela.	28.0	29.0	30.0	33.0	31.0	30.0	54.0	49.0	36.0	44.0
	55	57	59	65	61	59	107	97	71	87
Fla.	18.2	15.2	16.7	14.6	13.8	11.0	11.0	12.9	12.0	14.5
	988	825	906	792	749	597	597	700	651	787
Ga.	17.2	17.3	15.5	22.5	21.4	15.9	18.9	24.0	20.4	23.8
	1,007	1,012	907	1,317	1,252	930	1,106	1,404	1,194	1,393
Idaho	22.8	30.0	26.3	26.8	27.0	23.8	26.7	30.8	27.2	27.6
	1,133	1,491	1,307	1,332	1,341	1,183	1,327	1,530	1,351	1,371

Table 2.   Trends in the Breeding-population Index, 1953-62   (cont'd)

State	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
Ill.	23.7	19.4	19.7	22.8	30.3	32.8	33.2	31.6	36.0	29.1
	1,326	1,085	1,102	1,276	1,695	1,835	1,857	1,768	2,014	1,639
Ind.	23.5	42.4	35.7	29.3	32.8	34.0	35.4	26.8	30.2	25.0
	851	1,535	1,293	1,061	1,188	1,231	1,282	970	1,093	905
Iowa	28.2	32.9	41.5	44.1	57.6	50.6	82.6	66.0	82.5	80.0
	1,579	1,842	2,323	2,469	3,225	2,833	4,624	3,695	4,619	4,479
Kan.	29.3	27.7	40.6	43.4	42.9	42.9	50.2	61.7	62.7	63.8
	2,699	2,552	3,740	3,998	3,952	3,952	4,624	5,683	5,775	5,877
Ky.	14.4	17.9	18.9	23.0	22.3	27.8	27.4	28.3	26.7	27.1
	578	718	758	923	894	1,115	1,099	1,135	1,071	1,086
La.	23.0	24.7	27.4	25.2	17.0	15.9	13.8	14.8	13.7	10.9
	1,039	1,116	1,238	1,138	768	718	623	669	619	492
Maine**							1.5	2.5	3.0	3.0
Md.	10.1	22.2	15.9	18.6	17.8	17.0	19.7	17.0	15.7	19.0
	95	209	149	175	167	160	185	160	147	178
Mass.	3.7	6.0	2.0	1.0	8.3	3.7	5.3	7.6	5.0	6.7
	7	12	4	2	16	7	10	15	10	13
Mich.	13.0	16.6	21.9	20.6	22.1	24.8	30.1	27.2	28.8	22.9
	371	473	624	587	630	707	858	775	821	653
Minn.	30.9	36.3	39.6	37.6	33.1	28.9	24.1	23.4	30.1	24.9
	1,854	2,178	2,376	2,256	1,986	1,734	1,446	1,404	1,806	1,494
Miss.	15.7	18.3	20.5	21.2	26.0	31.7	25.8	25.9	22.7	24.8
	744	868	972	1,005	1,233	1,503	1,223	1,228	1,076	1,148
Mo.	26.8	29.3	42.5	50.6	61.0	52.7	46.4	49.5	44.6	42.1
	1,856	2,030	2,944	3,505	4,225	3,651	3,214	3,429	3,089	2,916
Mont.	24.8	18.8	37.9	41.8	36.8	38.2	39.0	77.3	66.5	44.0
	3,084	2,338	4,714	5,199	4,577	4,751	4,850	9,614	8,271	5,478
Neb.	82.6	62.5	55.3	43.8	53.6	35.1	73.4	81.8	66.3	52.3
	6,332	4,791	4,239	3,357	4,109	2,691	5,626	6,270	5,082	4,009

State	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
Nev.	26.2 2,848	27.5 2,989	28.4 3,087	27.2 2,957	28.0 3,044	18.1 1,968	33.2 3,609	24.1 2,620	29.6 3,218	14.9 1,620
N.H.**							3.0	4.7	3.8	2.8
N.J.	9.7 73	16.6 125	11.4 86	11.8 89	14.0 105	15.7 118	18.3 138	18.3 138	16.3 123	16.2 122
N.Mex.	28.7 3,139	25.8 2,821	42.8 4,681	31.7 3,467	23.0 2,515	24.5 2,679	32.0 3,500	55.6 6,080	37.4 4,090	32.8 3,587
N.Y.	22.9 274	19.3 231	20.0 240	31.8 381	30.2 362	25.0 300	18.7 224	28.6 343	23.5 282	27.1 325
N.Car.	15.3 677	21.2 938	23.8 1,053	23.9 1,057	24.4 1,079	22.6 1,000	27.9 1,234	27.0 1,194	23.7 1,048	26.1 1,154
N.Dak.	9.8 687	17.1 1,198	18.0 1,261	21.6 1,513	24.7 1,730	30.3 2,123	33.1 2,319	35.0 2,452	36.9 2,585	33.2 2,326
Ohio	22.0 905	27.2 1,119	22.2 913	18.2 748	20.2 831	24.3 999	20.3 835	17.8 732	21.6 888	25.8 1,060
Okla.	13.4 928	23.0 1,594	32.1 2,224	42.1 2,917	51.0 3,533	55.8 3,866	55.2 3,824	45.1 3,125	46.0 3,187	40.2 2,785
Ore.	38.6 2,789	24.5 1,770	30.8 2,226	29.8 2,153	33.8 2,442	28.8 2,081	42.3 3,057	38.8 2,804	43.0 3,107	36.8 2,659
Penna.	9.5 223	13.7 321	11.8 277	13.2 310	15.0 352	13.1 307	14.3 336	12.7 298	13.2 310	10.9 256
R.I**							14.0	8.0	10.0	11.0
S.Car.	18.9 578	31.2 955	29.6 906	29.6 906	30.0 918	31.6 967	30.2 924	32.0 979	31.7 970	28.5 872
S.Dak.	29.2 2,145	38.1 2,799	60.4 4,438	50.1 3,681	74.3 5,459	51.8 3,806	47.0 3,453	29.4 2,160	35.5 2,608	27.4 2,013
Tenn.	15.2 638	19.4 814	24.7 1,036	25.1 1,053	34.9 1,464	31.7 1,330	26.6 1,116	27.0 1,133	22.9 961	26.4 1,108

Table 2. Trends in the Breeding-population Index, 1953-62   (cont'd)

State	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
Texas	29.7	35.7	43.1	41.2	50.9	50.3	48.7	51.1	41.5	43.3
	7,830	9,412	11,363	10,862	13,419	13,261	12,839	13,472	10,941	11,416
Utah	no index	88.3	42.4	38.0	43.5	28.6	43.5	35.2	28.0	25.7
		6,544	3,142	2,816	3,224	2,120	3,224	2,609	2,075	1,904
Vt.**							1.0	8.0	0.0	2.0
Va.	13.2	16.0	18.2	22.2	32.2	40.6	43.2	43.2	40.6	35.1
	500	606	690	841	1,221	1,539	1,637	1,637	1,539	1,330
Wash.	28.9	29.0	32.9	32.6	48.4	42.4	51.3	35.3	31.0	36.9
	1,355	1,360	1,542	1,528	2,269	1,988	2,405	1,655	1,453	1,730
W.Va.	8.6	8.6	7.0	16.0	7.7	3.4	4.2	10.9	11.4	23.9
	145	145	118	270	130	57	71	184	192	403
Wisc.	36.8	39.7	42.4	44.2	37.9	34.3	31.6	36.0	35.7	25.0
	1,409	1,521	1,624	1,693	1,452	1,314	1,210	1,379	1,367	958
Wyo.	no index	5.6	7.5	18.1	30.9	22.7	26.4	24.1	28.3	26.0
		460	616	1,486	2,536	1,863	2,167	1,978	2,323	2,134
TOTAL INDEX *	77,262	85,119	88,372	96,118	89,074	98,665	104,115	97,281	87,3??	
PERCENTAGE CHANGE		+3.6	+10.2	+3.8	+8.8	-7.3	+10.8	+5.9	-6.6	-10.?

*   The 1953 index is incomplete because Colorado, Utah, and Wyoming did not conduct call-count surveys until 1954. The percentage change from 1953 to 1954 is based on comparable data only.

**   Maine, New Hampshire, Rhode Island, and Vermont first established call-count routes in 1959. No estimate has been made of the square miles of dove habitat in these States.

Table 3. Summary of Call-count Routes by States.

Includes all routes run in 1962 but only comparable routes for 1961.

ALABAMA

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
5R	Madison	44	38	33	17	69R	Perry-Hale	39	60	47	65
8R	Colbert-Franklin	3	3	11	11	75R	Lee-Macon	18	24	25	6
20R	Morgan-Marshall	40	37	32	14	76R	Lee	22	23	2	2
22R	Cherokee-Etowah	49	50	102	33	77R	Choctaw	12	3	6	3
23R	Cherokee-DeKalb	46	45	22	37	81R	Dallas	12	3	12	7
29R	Etowah	37	25	4	4	89R	Wilcox	9	9	6	12
34R	Walker	38	29	24	12	90R	Wilcox-Butler	9	18	9	3
35R	Jefferson	18	22	10	8	96R	Choctaw-Washington	2	7	0	4
41R	Pickens	--	6	--	19	99R	Monroe	4	7	4	16
43R	Jefferson	22	18	6	4	103R	Pike-Coffee-Barbour	15	9	10	38
47R	Claburne-Randolph	25	2	17	14	105R	Barbour-Henry	32	27	21	8
52R	Shelby-Bibb	4	11	1	0	107R	Clarke	30	7	27	2
59R	Hale-Perry	10	22	11	15	116R	Washington-Mobile	7	5	9	1
63R	Coosa-Elmore	3	6	1	7	121R	Covington	12	6	6	5

ARIZONA

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
3	Mohave	12	5	1	0	155	Cochise	4	7	0	9
7	Mohave	25	13	0	41	157	Mohave	2	5	9	5
9A	Mohave	46	27	4	3	170	Cochise	9	28	4	8
14	Mohave	37	13	4	0	187	Apache	23	5	0	1
15	Mohave	15	11	1	1	206	Coconino-Navajo	--	13	--	1
22	Mohave	5	4	1	4	253	Apache	--	24	--	1
44	Maricopa	14	13	9	8	260	Coconino	48	1	23	1
51	Maricopa	11	18	0	27	323	Apache	24	33	7	1
56	Navajo	13	14	5	2	550	Yuma	45	32	9	7
78	Apache	10	0	5	0	560	Yuma	68	40	79	29
79	Apache	36	0	12	6	563	Yuma	--	99	--	62
137	Cochise	4	0	44	6	601	Maricopa	47	32	12	30
154	Cochise	8	41	26	12						

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
615	Pinal	9	8	1	8	626	Pima	17	10	1	0
620	Pima	41	16	1	4	632	Pima	15	12	3	7

ARKANSAS

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Arkansas	91	40	154	125	7	Poinsett	--	24	--	48
2	Arkansas	83	19	118	22	8	Montgomery	6	4	2	3
3	Craighead	--	18	--	50	9	Scott	9	4	14	0
4	Craighead	--	31	--	46	10	Marion	14	23	22	15
5	Ouachita	14	5	45	2	11	Madison	15	22	17	9
6	Ouachita	11	13	44	2	12	Van Buren	12	11	15	21

CALIFORNIA

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1R	Del Norte	0	0	0	0	24R	Napa	64	70	13	22
2R	Siskiyou	26	34	125	35	25R	Placer	0	0	0	0
3R	Humbolt	1	0	3	2	26R	Napa-Solano	22	13	46	36
4R	Trinity	4	3	3	13	27R	Alpine	4	3	0	5
5R	Trinity	0	1	0	6	28R	Contra Costa	13	16	22	17
6R	Humbolt	0	4	7	9	29R	San Joaquin	2	16	14	13
7R	Shasta	0	27	0	1	30R	Tuolumne	1	2	0	0
8R	Humbolt	0	1	3	3	31R	Tuolumne	57	49	14	6
9R	Shasta	2	3	0	5	33R	Merced-Sanislaus	37	32	32	62
10R	Lassen	13	26	25	39	35R	Merced	10	8	32	36
11R	Mendocino	14	1	7	5	36R	Mono	12	22	0	2
12R	Tehama-Butte	57	59	115	59	37R	Hollister	28	6	7	6
13R	Lassen	8	13	0	0	38R	Madera	29	44	14	23
14R	Butte	17	23	16	3	40R	San Benito-Fresno	49	44	8	6
15R	Butte-Plumas	1	0	0	0	41R	Fresno	31	38	55	87
16R	Plumas	18	2	28	30	43R	Monterey-San Benito	7	10	23	26
17R	Mendocino	10	7	8	12	44R	Fresno-Tulare	62	66	153	172
18R	Plumas	13	3	1	4	45R	Monterey-San Luis Obispo	76	89	84	104
19R	Lake	45	35	9	4						
20R	Sierra	0	0	0	0						
21R	Colusa-Yolo	19	24	72	55						
22R	Colusa-Sutter	24	13	27	21						
23R	Nevada	9	9	11	0						

CALIFORNIA - Continued --

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
46R	Kings	33	34	91	62
47R	Tulare	7	17	38	39
48R	Tulare	46	30	32	17
49R	Tulare	88	70	24	75
50R	San Luis Obispo- Santa Barbara	100	218	26	21
51R	San Luis Obispo- Kern	19	30	8	11
52R	Kern	19	59	1	7
53R	San Bernardino	0	3	0	3
54R	Ventura- Los Angeles	27	11	72	54
55R	San Bernardino	2	0	5	0
57R	San Diego- Riverside	17	25	42	62
58R	Riverside	28	18	188	157
59R	Imperial	35	33	232	128
61R	Imperial	28	21	124	125

COLORADO

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
7	Adams	13	6	19	14
9	Arapahoe	23	21	27	13
10	Weld	14	9	35	23
11	Moffat	9	9	8	2
12	Douglas	19	29	6	17
16	Phillips	18	11	13	11
17	Yuma- Washington	0	2	1	2
18	Yuma	4	13	17	15
19	Garfield	--	13	--	27
20	Mesa	--	36	--	100
21	Montrose	--	49	--	92

CONNECTICUT

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
2	New London	4	1	5	0
3	New Haven	3	6	5	0

DELAWARE

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Kent	36	44	2	5

FLORIDA

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1R	Santa Rosa	14	27	5	17
2R	Okaloosa	27	21	5	3
3R	Walton	6	5	0	3
4R	Franklin	1	2	0	0
5R	Clay	8	8	0	11
6R	St. Johns	26	41	11	7
7R	Putnam	10	27	12	12
8R	St. Johns	22	25	28	0

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
9R	Gilchrist	14	22	8	8
10R	Alachua-Marion	19	30	2	8
11R	Volusia	13	15	0	0
12R	Sumter-Marion	15	17	5	7
13R	Lake	20	31	1	7
14R	Orange	3	2	4	1
15R	Osceola	5	1	2	1
16R	Osceola	49	7	14	7
17R	Hillsborough	5	6	3	2
18R	Okeechobee	4	16	0	6
19R	Okeechobee	21	41	7	3
20R	Okeechobee	24	18	6	5
21R	Glades	2	9	20	0
23R	Collier	0	0	0	0

GEORGIA

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
10R	Gilmer-Pickens	9	11	3	0
16R	Gordon-Bartow	23	29	9	2
18R	Dawson-Forsyth	12	9	7	1
25R	Cobb-Cherokee	7	3	9	6
27R	Gwinnett-Barrow	13	24	12	4
28R	Jackson-Barrow	--	22	--	6
29R	Madison-Oglethorpe	58	39	34	10
31R	Haralson-Carroll	9	6	18	16
33R	Walton	--	13	--	17
34R	Oconee	--	14	--	5
38R	Heard	7	12	12	19
47R	Troup-Chambers	8	10	11	2
60R	Upson	15	12	10	9
67R	Screven-Jenkins	23	55	3	11
79R	Chattahoochee-Stewart	9	10	0	0
85R	Laurens-Wheeler	17	22	23	13
90R	Effingham	25	58	8	25
105R	Worth-Turner	29	20	36	35
111R	Wayne	22	15	5	19
118R	Irwin-Berrien	19	18	21	44
121R	Pierce	34	43	10	6
140R	Lowndes	6	7	2	2

IDAHO

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Bingham	15	28	27	58
2	Power	55	43	19	289
3	Bannock	40	25	13	14
4	Caribou	--	20	--	0
7	Nez Perce	26	32	32	34
8	Ada-Canyon	--	13	--	24
9	Ada-Canyon	25	23	63	51
11	Nez Perce	40	55	17	35
12	Adams-Washington	21	28	52	27
16	Canyon	44	43	38	61
18	Franklin	49	25	72	50
22	Booner-Kootenai	7	20	0	0
24	Gem-Payette	115	119	117	134

ILLINOIS

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Cook-Lake	34	18	10	8
2	Lake	32	15	14	15
3	Williamson	52	66	38	32
4	Williamson-Jackson	61	59	11	23
5	Ogle	20	5	8	8
6	Ogle	19	18	3	13
7	Hancock	41	52	19	21
8	Marshall-Putnam	4	12	2	1
9	Fulton-McDonough	96	98	16	14
10	Union	35	20	37	24
11	Macon	3	5	10	5
12	Ogle	26	21	5	13
13	Washington	67	60	83	62
14	Lawrence	71	46	43	38
15	Champaign	19	11	3	10
16	Whiteside	8	15	18	7
17	Madison	35	25	35	35
18	Madison-Jersey	48	34	49	38
19	DeKalb	6	2	12	1
20	Mason	54	51	25	30
21	Mason	81	52	10	24
22	St.Clair	10	4	14	18
23	St.Clair	7	8	21	31
24	St.Clair-Monroe	30	9	25	15
25	Lee	14	6	21	37
26	Lee	14	20	7	22
27	St.Clair	27	32	58	58
30	Winnebago	35	19	13	8
31	Winnebago	47	22	19	9
32	St.Clair-Madison	30	27	9	34
33	Tazewell	33	26	10	8
34	Knox	49	43	30	42

INDIANA

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
9	Jackson	22	20	13	31
10	Newton	33	23	22	28
12	Wayne	56	38	24	13
13	Fulton	19	18	13	31
14	Grant	9	17	15	11
16	Orange	40	74	29	65
17	Morgan	15	22	19	13
18	Boone	22	19	7	48
19	Whitley	55	22	3	5
21	Newton	96	46	27	26
22	LaGrange	22	23	9	8

IOWA

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Clay	26	13	8	11
2	Clay (North)	34	34	32	21
5	Boone	16	4	32	22
7	Emmet	24	69	18	10
8	Emmet	--	39	--	59
9	Polk-Dallas	44	30	21	12
10	Mills-Fremont	71	142	37	126
11	Lee	42	33	37	56
12	Bremer-Fayette	23	28	12	16
13	Chickasaw-Bremer	30	37	14	17
14	Clay	--	11	--	27

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
15	Linn	64	51	21	25	17	Kossuth	66	34	37	8
16	Clarke-Decatur	135	128	113	114	18	Franklin	22	13	26	11
						21	Woodbury	61	23	79	73

KANSAS

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Reno	81	86	152	101	20	Pratt	58	68	89	66
2	Sedgwick	102	108	110	33	21	Cherokee	88	83	155	80
3	Barton	50	48	89	53	22	Bourbon	107	51	191	90
4	Saline	86	95	122	37	25	Morton	12	14	30	31
5	Shawnee	143	47	83	15	27	Pottawatomie	92	99	128	100
6	Montgomery	33	24	73	57	28	Marion	29	37	100	63
7	Cloud	91	101	114	120	29	Clay	31	18	102	145
9	Lyons	51	78	78	43	30	Smith	54	212	53	204
10	Crawford	96	102	54	34	31	Hodgeman	79	67	15	15
11	Barber	97	65	138	43	32	Graham	--	129	--	40
12	Lynn	112	122	41	31	33	Ford	63	43	27	19
13	Franklin	125	92	65	92	34	Grant	6	12	11	7
14	Russell	46	62	73	39	35	Rawlins	59	68	46	20
15	Barton	65	30	49	55	36	Gove	--	46	--	91
16	Rush	35	52	85	91	37	Greenwood	28	26	50	85
17	Ness	36	50	25	32	39	Meade	55	58	69	102
18	Finney	38	16	40	8	40	Riley	32	50	27	46
19	Finney	78	110	144	32						

KENTUCKY

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1R	Kenton-Pendleton	20	19	11	13	53R	Lincoln-Rockcastle	14	29	10	21
2R	Trimble-Henry	17	13	10	5	60R	Ballard-McCracken	21	18	42	57
17R	Breckinridge-Meade	46	42	10	7	64R	Muhlenberg-Logan	30	25	10	28
20R	Spencer-Nelson	24	31	9	14	79R	Christian	77	90	56	92
23R	Bath-Montgomery	15	13	0	0	82R	Logan-Warren	23	36	17	16
25R	Lawrence-Johnson	2	4	2	1	92R	Graves-Weekly	48	51	37	38
27R	Henderson	102	95	105	127	95R	Whitley-Campbell	4	9	0	0
41R	Floyd	1	2	0	0	96R	Bell	0	1	0	0
43R	Crittenden	24	13	33	32						

LOUISIANA

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Sabine-Natchitoches	7	14	5	7	16	Vermillion	2	0	0	0
2	Webster-Claiborne	11	11	9	11	17	Morehouse	33	22	8	2
3	Acadia	2	0	7	1	18	Iberville	4	10	4	10
5	E.Baton Rouge-Iberville	2	1	0	2	19	Terrebonne	5	6	5	9
7	E. Feliciana	2	6	0	0	20	Rapides	9	8	19	13
8	Tangipahoa	7	1	6	0	21	Rapides	19	13	31	11
9	Concorida	24	19	10	10	24	Grant	32	20	36	17
10	Caldwell-Ouachita	7	13	1	5	25	Vernon	18	10	5	0
11	Rapides	4	5	3	4	26	Lafayette-St.Martin	19	31	12	34
12	Rapides	8	8	6	7	27	Lafayette-St.Martin	17	33	10	40
13	Vernon-Natchitoches	10	7	1	1	28	Bienville	36	17	13	18
14	Natchitoches	48	19	1	2	29	Pointe-Coupe	19	10	15	4
15	Lafayette	30	8	3	7	30	Union	9	9	8	8
						31	Franklin	--	31	--	6
						32	Vernon	10	12	0	1

MAINE

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Kennebec-Lincoln-Sagadahoc	3	2	0	0
2	Sagadahoc-Kennebec	1	3	0	0
5	York	5	4	1	0

MARYLAND

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1R	Garrett	10	9	10	8	7R	Baltimore-Harford	16	12	0	10
2R	Allegheny	8	13	5	4	8R	Anne Arundel	13	13	7	2
3R	Frederick-Carroll	11	19	14	13	9R	Calvert	25	40	11	7
4R	Howard	18	23	10	22	10R	St.Marys	47	34	1	7
5R	Anne Arundel	17	21	21	6	11R	Queen Annes	9	7	10	5
6R	Harford	7	20	20	18	12R	Sommerset-Worcester	25	17	1	2

MASSACHUSETTS

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Barnstable	2	13	0	2	13	Worcester	0	2	0	0
2	Barnstable	0	1	0	0	14	Worcester	0	0	1	0
3	Plymouth	10	8	3	1	16	Hampshire	10	11	7	7
4	Plymouth	8	9	2	0	17	Franklin	3	13	1	0
5	Bristol-Plymouth	7	12	1	2	18	Franklin-Hampshire	5	3	2	5
6	Bristol	4	2	0	1	19	Hampden	5	3	6	3
7	Norfolk	4	9	1	0	20	Hampshire	0	0	2	0
8	Essex	8	8	0	0	21	Hampshire	0	0	0	0
9	Middlesex	8	10	0	0	22	Berkshire	2	5	1	0
10	Worcester	4	0	11	6	23	Berkshire	1	0	0	0
11	Worcester	4	11	5	4	24	Essex	4	4	4	1
12	Worcester	2	0	0	0						

MICHIGAN

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
2	Washtenaw	19	28	17	12	11	Newaygo	21	19	10	11
3	Bay	22	11	2	4	12	Newaygo	27	15	9	11
4	Tuscola	18	15	5	3	13	Ingham	9	13	4	6
5	Tuscola	11	10	1	2	24	Allegan	64	29	21	50
6	Monroe	33	38	27	20						

MINNESOTA

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Jackson	37	27	39	5	11	Ottertail	19	40	4	6
2	Jackson	47	34	11	11	12	Dodge	59	20	7	8
3	Nobles	--	51	--	75	14	Lincoln	80	88	29	35
6	Olmsted	20	26	17	55	15	Pope	43	24	13	14
7	Scott	40	36	21	31	16	Pennington	25	1	38	4
8	Polk-Red Lake	14	23	12	37	17	Roseau	14	42	0	2
10	Dakota	28	24	20	17	18	Kandiyohi	74	29	25	21

MISSISSIPPI

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
7R	Tishomingo-Alcorn	29	20	15	79	15R	Coahoma-Bolivar	37	90	54	45
12R	Union	113	151	117	54	22R	Itawamba	42	18	52	76
13R	Prentiss-Lee	44	33	56	56	25R	Tallahatchie	38	53	46	35
						28R	Chickasaw	47	22	40	12

MISSISSIPPI - Continued --

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
33R	Sunflower-LeFlore	37	41	38	23	73R	Rankin	12	10	50	47
35R	Montgomery	26	20	34	7	74R	Smith	12	13	41	30
43R	Carroll-Holmes	61	58	48	21	78R	Jefferson	7	5	5	16
50R	Holmes-Yazoo	66	36	50	22	89R	Lincoln	25	32	16	5
56R	Sharkey-Issquena	26	47	26	70	94R	Wayne	10	12	6	1
60R	Leake	6	14	17	41	95R	Wayne	20	16	33	34
						101R	Lamar-Marion	9	20	24	7
						113R	Hancock	4	3	0	0
						115R	Jackson	0	0	0	2

MISSOURI

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Boone	93	107	60	83	9	Greene	12	23	18	30
2	Boone-Callaway	99	50	74	40	11	St. Charles	36	30	26	28
3	Callaway	37	42	39	59	13	DeKalb-Daviess	85	52	49	37
4	Cole	51	28	36	23	14	Daviess-Caldwell	44	46	97	47
5	Cape Girardeau	67	75	56	110	17	Marion	51	68	61	55
6	Cape Girardeau	54	71	41	116	18	Marion	25	26	52	43
7	Howell-Douglas	33	34	3	0	19	Chariton	77	56	42	32
8	Texas	18	23	3	4	22	St. Charles	35	38	19	28
						23	Greene	19	19	22	42

MONTANA

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Yellowstone	23	10	9	45	15	Revelli	0	0	0	3
2	Lewis-Clark	11	13	1	5	16	Powell	--	12	--	12
8	Phillips	103	44	40	13	27	Toole	3	6	8	10
9	Phillips	194	100	39	9	35	Sweet Grass	83	70	34	27
10	Phillips	26	14	9	10	38	Musselshell	35	5	5	22
11	Sheridan	10	12	4	5	41	Broadwater	19	65	40	9
12	Sheridan	2	3	4	5	42	Fergus	--	95	--	17
13	Sheridan-Roosevelt	11	9	14	23	43	Phillips	--	111	--	23
						44	Broadwater	21	11	6	15
						45	Lake	41	23	12	16

NEW MEXICO

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
2	Bernalillo-Sandoval--Santa Fe	27	71	5	9	17	Valencia-Socorro	54	24	115	182
6	Hidalgo	44	42	9	21	18	Valencia	19	9	20	32
7	Luna	45	58	40	79	19	Chaves	15	19	17	0
8	San Miguel	--	14	--	7	25	Roosevelt	--	61	--	26
9	San Miguel	--	9	--	13	31	Socorro	100	67	66	222
10	Chaves	25	15	29	11	32	Sierra	--	0	--	36
12	Chaves	74	21	22	15	33	Dona Ana	5	17	38	9
15	Rio Arriba	--	36	--	28	34	San Juan	25	29	40	54
						35	Santa Fe	39	55	7	35

NEW YORK

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Niagara	--	26	--	4	6	Seneca	--	4	--	9
2	Niagara	--	47	--	9	7	Suffolk	33	20	11	6
3	Orleans-Genesee	48	59	6	15	13	Wayne	10	9	0	0
4	Wayne-Monroe	35	32	4	6	14	Ulster	22	30	2	4
5	Seneca	--	4	--	5	16	Columbia	2	3	4	5
						18	Dutchess	9	29	0	0
						19	Putnam	4	6	3	1

NORTH CAROLINA

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
16R	Hertford-Gates	37	19	42	24	65R	Wilson-Greene	27	53	48	57
22R	Surry-Yadkin	22	39	21	30	70R	Macon	6	6	7	1
24R	Guilford-Caswell--Alamance	24	48	32	24	77R	Mecklenburg-Cabarrus	16	35	33	17
26R	Durham-Person	24	24	20	14	80R	Montgomery-Moore	5	19	16	15
36R	Wilkes-Caldwell	10	7	2	3	85R	Wayne-Duplin	44	61	49	42
52R	Madison-Buncombe	5	3	8	2	92R	Jackson	4	1	2	0
54R	Burke	4	3	0	3	96R	Richmond-Montgomery	11	37	9	14
58R	Davison	14	31	3	6	98R	Hope-Cumberland	55	27	21	22
60R	Randolph-Chatham	27	23	13	5	99R	Cumberland	59	30	24	8
63R	Wake-Johnson	32	33	33	36	101R	Sampson	50	39	13	25
						112R	Onslow	21	17	18	4

NEBRASKA

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Lancaster	80	95	107	73	10	Red Willow	7	10	16	29
2	Lancaster	100	60	79	61	11	Platte	24	24	69	75
3	Adams	45	39	62	68	12	Lincoln	43	17	73	74
4	Adams	52	36	41	51	14	Cherry	25	29	22	12
5	Hamilton	83	52	81	105	15	Cherry	--	15	--	74
9	Frontier	44	35	35	36						

NEVADA

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Churchill	32	7	35	11	13	Clark	2	0	1	0
2	Clark	71	18	40	23	14	Clark	14	23	2	7
3	Clark-Mohave	29	5	62	29	15	Elko	60	45	18	5
4	Clark	4	12	22	52	17	Lincoln	15	0	2	2
5	Clark	17	0	18	0	18	Lyon	6	4	2	1
6	Elko-White Pine	11	8	5	3	20	Lincoln	50	16	4	7
7	Elko	17	18	39	18	21	Lander	0	0	1	5
8	Lyon	8	13	6	2	22	Lander	3	23	1	24
9	Washoe	58	43	11	3	23	Elko	9	6	5	6
10	Lincoln	109	31	915	7	24	Lander	1	6	6	0
12	Pershing	37	1	406	6	25	Lyon	0	1	0	6
						26	Eureka	4	0	4	19

NEW HAMPSHIRE

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
2	Merrimac-Rockingham	3	0	1	0	4	Stafford	2	1	1	2
3	Stafford, N. H. - York, Maine	5	5	1	0	5	Stafford-Rockingham	5	5	1	0

NEW JERSEY

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Sussex	8	5	4	6	7	Salem	31	28	2	0
2	Sussex	10	6	1	4	9	Ocean	14	13	0	1
4	Hunterdon	15	11	9	9	10	Hunterdon	20	25	16	18
5	Cumberland	2	4	6	7	11	Somerset	59	66	38	33

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Burleigh	23	12	25	17
2	Burleigh	58	45	29	45
3	McHenry-Bottineau	40	64	12	14
4	Sheridan	11	27	15	17
5	Stutsman	32	34	46	25
6	Stutsman	29	20	23	31
7	McHenry	57	43	23	12
8	Ward-Renville	96	73	11	5
9	Ward	158	79	17	2
12	Ward	12	33	9	6
13	Ward	15	20	10	3
14	Burke	3	15	10	1

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
15	Burke-Ward	2	8	4	4
16	Williams	15	4	20	3
18	Walsh-Pembina	33	27	25	16
19	Walsh	27	24	28	21
20	Sargent	53	39	21	13
21	Ward	13	16	13	7
22	Montrail	2	1	1	0
23	Starke	7	10	20	19
24	Golden Valley	8	9	17	11
25	Kidder	11	13	14	10
26	McLean	11	29	19	16

OHIO

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Ottawa	23	21	20	52
2	Franklin	7	15	17	23
3	Franklin	26	14	12	22
9	Franklin	14	11	24	29
10	Pickaway-Ross	40	132	25	14
11	Athens	8	8	2	5
12	Wood	16	18	34	44
13	Wood	10	11	14	10

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
14	Wood	11	12	18	18
15	Wood	16	20	20	13
17	Union	41	37	19	17
18	Highland	37	33	12	10
19	Union	27	21	5	24
20	Delaware	69	44	10	14
21	Delaware-Union	28	48	14	22

OKLAHOMA

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
4	Waggoner	18	25	30	20
6	Camache	26	16	8	9
9	MacIntosh	22	18	16	20
10	Kingfisher	46	47	66	63
11	Alfalfa	84	77	79	154

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
13	Muskogee	17	21	23	37
15	Love	107	103	158	82
16	Johnston	64	24	40	20
17	Woodward	143	130	34	28

OREGON

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Umatilla	34	29	20	20	10	Wasco	38	29	15	29
2	Jackson	41	34	44	14	11	Morrow	68	43	73	54
3	Umatilla	44	75	38	51	12	Grant	49	42	25	17
4	Yamhill-Polk	34	30	33	34	13	Baker	20	9	54	17
5	Klamath	75	15	10	5	14	Harney	28	33	4	3
6	Deschutes	33	23	10	12	15	Malheur	22	20	26	35
7	Wasco	52	53	45	14	17	Hood River	10	24	12	21
8	Linn	13	23	9	2	18	Lake	17	17	4	37
9	Douglas	113	69	1	15	19	Jefferson	53	67	70	37

PENNSYLVANIA

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
2	Centre	2	3	1	2	14	Perry	12	19	4	2
5	Elk	3	3	0	0	15	Perry	16	13	5	13
6	Elk-Jefferson	6	6	1	2	16	Indiana	3	8	2	0
8	Lycoming-Clinton	0	1	0	7	17	Indiana	18	10	5	1
						18	Franklin	95	54	13	53
10	Franklin	4	8	5	10	20	Lancaster	12	20	24	36
13	York	23	16	13	12	21	York	--	25	--	14

RHODE ISLAND

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
2	Washington	13	11	2	1

SOUTH CAROLINA

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
4R	Cherokee-Cleveland (N.C.)	36	35	63	71	47R	Horry	40	29	20	14
						48R	Edgefield	26	16	15	7
6R	Oconee-Rabun (Ga.)	5	6	1	0	50R	Aiken	44	43	37	22
10R	Union-Chester	39	27	6	11	51R	Orangeburg-Aiken	32	28	4	3
14R	Chesterfield	53	64	30	18	53R	Clarendon	40	76	19	52
18R	Laurens	31	24	34	38	54R	Clarendon-Williams	24	29	0	5
25R	Marlboro	73	38	29	50	56R	Williamsburg-Georgetown	19	13	5	4
27R	Abbeville	32	22	13	6	59R	Orangeburg	22	21	7	7
32R	Kershaw-Richland	8	13	4	8	60R	Orangeburg	47	33	19	42

SOUTH CAROLINA - Continued --

Rt. No.	County	Heard 1961	1962	Seen 1961	1962	Rt. No.	County	Heard 1961	1962	Seen 1961	1962
70R	Berkley-Charleston	3	2	3	0	73R	Charleston-Dorchester	8	8	1	2
71R	Hampton-Jasper	35	49	27	6						

SOUTH DAKOTA

Rt. No.	County	Heard 1961	1962	Seen 1961	1962	Rt. No.	County	Heard 1961	1962	Seen 1961	1962
1	Brown	35	24	40	36	4	Aurora	17	29	11	36
2	Brown	49	35	40	43	8	Hughes	44	39	24	6
3	Hanson-Davison	28	16	57	12	9	Kingsbury	64	51	42	30
						10	Lyman	25	8	6	30

TENNESSEE

Rt. No.	County	Heard 1961	1962	Seen 1961	1962	Rt. No.	County	Heard 1961	1962	Seen 1961	1962
6R	Macon-Allen (Ky.)	12	24	14	26	44R	Cannon-DeKalb	25	20	30	49
7R	Clay-Jackson	33	28	34	17	47R	Morgan-Cumberland	16	18	1	0
9R	Pickett-Wayne(Ky.)	21	12	42	30	53R	Lauderdale	21	18	67	62
10R	Scott-McCreary(Ky.)	5	9	3	2	55R	Crockett-Haywood	18	16	76	75
14R	Dyer	19	18	74	78	57R	Henderson	49	59	39	47
20R	Dickson	27	19	43	40	61R	Maury	28	28	21	18
23R	Smith	20	21	31	42	63R	Rutherford	50	39	27	12
24R	Jackson	20	22	14	24	67R	Cumberland-Rhea	19	40	2	18
29R	Union-Claiborne	19	10	4	15	71R	Sevier	17	21	2	8
31R	Hawkins-Green	22	75	34	24	75R	Hardeman-Madison	22	33	13	15
36R	Gibson	18	21	61	86	84R	Grundy-Sequatchee	3	7	0	1
38R	Benton	55	66	46	60	89R	Shelby	31	37	59	51

TEXAS

Rt. No.	County	Heard 1961	1962	Seen 1961	1962	Rt. No.	County	Heard 1961	1962	Seen 1961	1962
3	Robertson	32	26	24	39	11	Victoria	8	23	45	44
4	Robertson	47	47	37	32	12	Harris	20	6	52	15
9	Wilson	414	135	193	65	13	Brazoria	17	16	18	33
10	Wilson	213	149	148	70	15	Chambers	10	2	70	15

Rt. No.	County	Heard 1961	1962	Seen 1961	1962	Rt. No.	County	Heard 1961	1962	Seen 1961	1962
16	Travis	6	10	16	52	42	Jefferson	24	12	90	29
17	Titus	--	23	--	13	43	Roberts	45	91	79	100
18	Kleberg	21	39	97	183	44	Roberts	36	60	44	76
19	Crockett	41	35	9	20	45	Tom Green	34	19	118	42
20	Crockett	8	13	4	23	48	Cameron	45	22	141	96
21	Val Verde	--	3	--	47	49	Dewitt	68	54	265	232
22	Val Verde	3	11	12	10	50	Bee	11	22	139	273
24	Thropmorton	--	55	--	95	53	El Paso	0	3	17	74
25	Lubbock	3	1	17	2	54	Reeves	7	2	13	17
26	Lubbock	3	4	19	7	57	Dawson	14	53	13	18
27	Webb	19	21	45	67	58	Brown	86	74	89	62
28	Jefferson	23	11	99	20	59	Edwards	10	22	14	9
29	Bexar	47	67	22	12	62	LaSalle	--	46	--	208
34	Hemphill	43	39	58	46	64	Smith	23	51	30	131
35	Hemphill	17	17	55	58	65	Hopkins	7	7	24	42
36	Randall	41	47	75	57	66	Nacogdoches	89	55	42	164
37	Randall	34	20	68	27	67	Nacogdoches	64	46	42	111
39	Potter	--	21	--	36						

UTAH

Rt. No.	County	Heard 1961	1962	Seen 1961	1962	Rt. No.	County	Heard 1961	1962	Seen 1961	1962
1	Box Elder	--	35	--	54	17	Juab-Millard	31	34	90	55
2	Cache	13	3	28	10	19	Garfield	11	11	4	0
4	Tooele	53	16	32	21	23	Washington	51	40	28	23
5	Juab-Tooele	24	22	2	6	24	Rich	49	40	31	87
6	Box Elder	--	27	--	49	27	Weber	--	8	--	12
8	San Juan	4	2	68	81	28	Grand	4	6	8	3
13	Wayne-Emery	8	49	66	10	29	Summit	3	8	21	9
16	Juab	46	48	64	50	30	Juab	36	27	46	75
						31	Summit	--	19	--	4

VERMONT

Rt. No.	County	Heard 1961	1962	Seen 1961	1962
1	Addison	0	2	1	0

VIRGINIA

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
2R	Smythe-Tazwell	6	6	0	0
3R	Pittsylvania	108	57	21	12
4R	Rockingham-Augusta	5	9	3	0
5R	Shenandoah	13	10	2	3
6R	Loudoun-Prince William	33	37	14	9
7R	Prince William-Fauquier	40	24	3	4
8R	Richmond-Westmoreland	47	41	56	44
9R	Cumberland-Buckingham	47	45	7	39
10R	Sussex-Dinwiddle	15	20	29	16
11R	South Hampton-Sussex	71	84	28	43

WASHINGTON

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Spokane	36	15	27	27
2	Douglas	23	33	51	22
3	Spokane	16	37	15	12
4	Whitman	21	29	24	26
5	King	0	0	0	0
6	Okanogan	49	77	90	106
7	Skagit	0	5	9	1
8	Yakima	120	111	209	222
9	Yakima	37	47	187	199
10	Yakima	16	15	97	71
12	Yakima	23	36	84	142
13	Ferry	26	42	0	1
14	Stephens	28	23	1	9

WEST VIRGINIA

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Hampshire	13	25	2	3
2	Mason	3	9	25	18
3	Mason	10	21	5	15

WISCONSIN

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
1	Dane-Columbia	38	32	17	16
2	Columbia	46	30	11	9
3	Iowa	43	30	1	4
4	Green	26	15	6	4
5	Jackson	49	44	10	5
6	Dunn	70	44	7	7
7	Dunn	64	15	12	10
8	Adams	38	53	15	28
9	Sauk	27	12	4	0
12	Dane	32	29	9	5
13	Adams	43	36	3	9
17	Winnebago	4	5	6	4
18	Winnebago	11	8	20	2
19	Kenosha	25	24	12	9
20	Grant	18	4	4	7
21	Vernon	23	22	12	8
22	Dodge	22	3	4	2

WYOMING

Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962	Rt. No.	County	Heard 1961	Heard 1962	Seen 1961	Seen 1962
2	Hot Springs	5	4	4	25	14	Big Horn	27	20	2	3
3	Natrona	40	20	9	2	15	Lincoln	2	3	1	1
4	Carbon	17	23	14	19	16	Campbell	94	92	202	30
5	Fremont	24	26	3	7	17	Sweetwater	--	11	--	0
7	Platt	--	55	--	40	19	Albany	0	2	0	2
8	Washakie	32	29	51	17	21	Laramie	47	27	19	26
10	Carbon	2	9	5	11	22	Johnson	7	42	5	4
12	Uinta	6	3	0	2	23	Park	5	4	2	3
13	Niobrara	38	16	14	5						

The Department of the Interior, created in 1849, is our Nation's Department of Natural Resources, concerned with management, conservation, and development of water, wildlife, fish, mineral, forest, and park and recreational resources. It also has major responsibilities for Indian and Territorial affairs.

As America's principal conservation agency, the Department works to assure that nonrenewable resources are developed and used wisely, that park and recreational resources are conserved for the future, and that renewable resources make their full contribution to the progress, prosperity, and security of the United States, now and in the future.

UNITED STATES DEPARTMENT OF THE INTERIOR
Stewart L. Udall, Secretary
Frank P. Briggs, Assistant Secretary for Fish and Wildlife
FISH AND WILDLIFE SERVICE
Clarence F. Pautzke, Commissioner
BUREAU OF SPORT FISHERIES AND WILDLIFE
Daniel H. Janzen. Director